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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/740,265

12/17/2003

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T-6265

1917

23911 7590 07/18/2008  
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EXAMINER

MCAVOY, ELLEN M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/18/2008

PAPER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/740,265  
Filing Date: December 17, 2003  
Appellant(s): MATTHEWS ET AL.

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Asaf Batelman  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12 May 2008 appealing from the Office action mailed 08 August 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellants' statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,491,269	COLLE et al	February 1996
6,222,083	COLLE	April 2001
6,194,622	PEIFFER et al	February 2001

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Colle et al (5,491,269) [Colle '269], Colle (6,222,083) [Colle '083] and Peiffer et al. ["Peiffer"], considered separately.

Colle '269 discloses a method for inhibiting the formation of clathrate hydrates in a pipe used to convey petroleum oil or natural gas. For example, flow restrictions arising from partial or complete blockages in a fluid stream can arise as clathrate hydrates adhere to and accumulate along the inside wall of the pipe used to convey the fluid. The method comprises treating the petroleum oil or natural gas fluid inside the pipe with an inhibitor comprising a substantially water soluble polymer produced from a cyclic imino ether. The water soluble polymer may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 2, line 23 to column 3, line 19. Colle '269 teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream it reduces the rate that clathrate hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent claims is not set forth in the prior art, Colle '269 teaches that any convenient concentration of inhibitor in the carrier solvent can be used.

Appellants' method claims differ by not adding the polymer component to the water or aqueous solvent. However, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel

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characteristic(s)” of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner maintains the position that the addition of the smallest amount in Colle ‘269, about 0.01 % by weight, of the polymer gas hydrate inhibitors to the water component which optionally may contain salt or brine, does not affect the basic and novel characteristics of the claimed invention. Although the specific system for preventing the formation of hydrate blockage in a flow line as set forth in independent claim 14 is not set forth in the prior art, Colle ‘269 teaches that the inhibitor mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 3, lines 35-42.

Colle ‘083 discloses a method for inhibiting the formation of gas hydrates in a petroleum fluid having hydrate-forming constituents. For example, flow restrictions arising from partial or complete blockages in a fluid stream can arise as gas hydrates adhere to and accumulate along the inside wall of the pipe used to convey the fluid. The method comprises treating the petroleum fluid inside the pipe with an inhibitor comprising substantially water soluble homopolymers and copolymers of N-acyldehydroalanine derivatives. The water soluble polymers may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 3, line 62 to column 4, line 63. Colle ‘083 teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream it reduces the rate that gas hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent claims is not set forth in the prior art, Colle ‘083 teaches that any convenient concentration of inhibitor in the carrier solvent can be used.

Appellants' method claims differ by not adding the polymer component to the water or aqueous solvent. However, as set forth above, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner maintains the position that the addition of the smallest amount in Colle '083, about 0.01 % by weight, of the polymer gas hydrate inhibitors to the water component which optionally may contain salt or brine, does not affect the basic and novel characteristics of the claimed invention. Although the specific system for preventing the formation of hydrate blockage in a flow line of independent claim 14 is not set forth in the prior art, Colle '083 teaches that the inhibitor mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 4, line 64 to column 5, line 3.

Peiffer also discloses a method for inhibiting the formation of gas hydrates in a petroleum fluid having hydrate-forming constituents. The method comprises treating the petroleum fluid inside the pipe with an inhibitor comprising substantially water soluble homopolymers and copolymers of surfactant monomers. The water soluble polymers may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 3, line 62 to column 4, line 62. Peiffer teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream, it reduces the rate that gas hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent

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claims is not set forth in the prior art, Peiffer teaches that any convenient concentration of inhibitor in the carrier solvent can be used.

Appellants' method claims differ by not adding the polymer component to the water or aqueous solvent. However, as set forth above, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner maintains the position that the addition of the smallest amount in Peiffer, about 0.01 % by weight, of the gas hydrate inhibitors to the water component which optionally may contain salt or brine, does not affect the basic and novel characteristics of the claimed invention.

Although the specific system for preventing the formation of hydrate blockage in a flow line of independent claim 14 is not set forth in the prior art, Peiffer teaches that the inhibitor mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 4, line 63 to column 5, line 2.

#### **(10) Response to Argument**

Appellants argue that the inclusion of hydrate inhibitors, for example, hydrate inhibitors that can be mixed at low concentrations of about 0.01%, according to Colle '269, Colle '083, and Peiffer, would materially affect the basic and novel characteristic of the claimed invention, as the claimed invention avoids not only the need to incur the cost of providing hydrate inhibitors, but also the handling and disposal of hydrate inhibitors.

This is not deemed to be persuasive because the claimed inventive method of inhibiting hydrate formation blockage in a flow line transporting a hydrocarbon containing fluid is not affected by the addition of the hydrate inhibitors of the prior art, i.e., the method of inhibiting blockage remains the same.

Appellants argue that even if each of the cited references “teaches that any convenient concentration of inhibitor in the carrier solvent can be used”, as asserted by the Examiner, the cited references do not anticipate claims 2-4, which each recite a minimum percentage of the water cut enhanced hydrocarbon containing fluid. The water cut of the present claims would correspond to the carrier solvent of the cited references, rather than the inhibitor of the cited references, which is excluded by the present claims.

This is not deemed to be persuasive because it is not exactly clear what is meant in dependent claims 2-4 wherein sufficient water is added such that the water cut of the water cut enhanced hydrocarbon containing fluid is at least 50% or 75% or 85%. When the water is initially added to the hydrocarbon fluid, the water cut is essentially 100% before it mixes with the hydrocarbon fluid and the water cut % decreases as the water mixes in with the hydrocarbon fluid. The examiner is of the position that this claimed limitation does not differ from the prior art references which also added water (containing hydrate inhibitor) to the hydrocarbon fluid.



**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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